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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,831	10/07/2003	Kristina Vogt	Mo-6646D/LeA 34,283D	5388

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EXAMINER	
MARCHESCHI, MICHAEL A	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,831	VOGT ET AL.	
	Examiner	Art Unit	
	Michael A Marcheschi	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment filed 8/30/04*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/023,174.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The disclosure to because of the following informalities:

The specification is objected to because on page 1, the continuing data does not define the **status** of the parent application (i.e. abandoned). The continuing data must be amended to properly define the current status of the parent application.

Appropriate correction is required.

Claims 10-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The new matter is the limitation "wherein the slurry has a pH ranging from about 2 to about 6" as defined in part (c) of independent claim 10 because the specification **only** provides support for this pH at a temperature of 22°C. Since no temperature is defined for the pH as claimed, it is broader in scope than the original disclosure

Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is indefinite because it defines multiple ranges for the abrasive and salt limitations and the use of multiple ranges in a claim renders the scope of the claim unclear.

The other claims are indefinite because they depend on claim 10.

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over either (1) EP 1077241 A2 or (2) Misra et al.

The EP reference teaches in the abstract, sections [0006], [0018] and [0027] and the claims, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 2-50 wt% colloidal silica and 0.1 to about 1% of a fluoride salt. A preferred pH is disclosed.

Misra et al. teach in the abstract, column 1, lines 1-5, column 3, lines 23-55, column 5, lines 24-39 and the claims, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 2-50 wt% colloidal silica and 0.1 to about 1% of a fluoride salt. A preferred pH is disclosed.

The references teach all of the claimed features except the pH (i.e. the slurry being acidic). Although the references do not literally define an acidic pH, this does not preclude the slurry of the references from having the claimed characteristic. This is apparent because the pH of the references is the **preferred** value, and as is well known, **"A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.** Absent the preferred embodiments, the references clearly suggest any pH values.

Claim 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/78116 in view of Mirsa et al. and Ina et al.

The WO reference teaches on page 3, lines 3-30 and page 6, lines 5-30, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 0.1-40 wt% silica and 0.5 or more of a fluoride salt. The slurry of the reference can be **any** pH. This reference does not specifically teach colloidal silica or the size of the abrasive.

Ina et al. teach in column 8, lines 54+ various benefits of using colloidal silica (having the claimed size), as the abrasive, in polishing compositions.

The WO reference teaches all of the claimed features except the colloidal feature and the size. With respect to the pH, the WO reference states that the slurry can be **any** pH and this broadly encompasses and therefore makes obvious an acidic slurry. In addition, assuming arguendo about the pH, the WO reference literally teaches a **preferred** pH of **about** 7 and as is well known "about" **permits some tolerance**, *In re Ayers*, 154 F 2d 182, 69 USPQ 109. With respect to the use of colloidal silica and size, the WO reference teaches that **any** conventional polishing abrasive can be used (page 3, line 3) and since colloidal silica (having the claimed size) is a conventional polishing abrasive, as shown by Mirsa et al., one skilled in the art would have found it obvious to use colloidal silica as the silica abrasive in the composition according to the WO reference. This is apparent because the substitution of one abrasive for another that is used for the same purpose (polishing) is well within the level of ordinary skill in the art. In addition, Ina et al. clearly teaches the benefits of using colloidal silica in polishing compositions and the benefits obtained would motivate the skilled artisan to use colloidal silica. Finally, the WO

reference teaches silica abrasives, in general, and the broad interpretation of silica abrasive encompasses and therefore makes obvious the colloidal form therefore absent evidence to the contrary.

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover et al. alone or in view of Mirsa et al. and Ina et al.

Grover et al. teach in column 2, line 58-68 , column 3, lines 35-55, column 4, lines 18-25 and column 5, line 60-column 6, line 5, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 02-25 wt.% silica (size less than 0.4 microns and 0.05-6 wt.% of a salt. For the abrasive, the reference states that the abrasive can be formed by a sol-gel method and forms a **colloidal** dispersion. For the salt, the reference states that this includes **any** water soluble inorganic salt.

With respect to the salt, the reference states that **any** inorganic salt can be used and this broadly encompasses and therefore makes obvious the claimed fluoride salt because these are water soluble absent evidence to the contrary. In view of this, one reading the disclosure of the primary reference can interpret the salt to be a fluoride salt. With respect to the abrasive, the primary reference states that the abrasive forms a colloidal dispersion and this implies that the abrasive is colloidal in nature (i.e. encompasses colloidal silica) in the absence of any evidence showing the contrary. The same is true about the sol-gel formation of the abrasive. This implies that the abrasive is a silica sol (i.e. colloidal silica). In the alternative, one skilled in the art would have found it obvious to use colloidal silica as the silica abrasive in the composition according to Grover et al. because this type of silica is notoriously well known in polishing

compositions, as shown by Mirsa et al., and the substitution of one abrasive for another that is used for the same purpose (polishing) is well within the level of ordinary skill in the art. In addition, Ina et al. clearly teaches the benefits of using colloidal silica in polishing compositions and the benefits obtained would motivate the skilled artisan to use colloidal silica.

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francis et al. in view of Mirsa et al.

Francis et al. teaches in column 3, line 36-column 4, line 45 and column 6, lines 50-55, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 1-50 wt. percent of a silica abrasive (40-75% of that being colloidal silica) and 0.01-5 wt. percent of cesium fluoride (fluoride salt) (2-25 wt.% silica (size less than 0.4 microns and 0.05-6 wt.% of a salt.

The primary reference teaches all of the claimed features except the size of the abrasive and literal pH. With respect to the pH, the primary reference states that the slurry has a pH of **about** 7 and as is well known "about" **permits some tolerance**, *In re Ayers*, 154 F 2d 182, 69 USPQ 109. In addition, the primary reference states that for **best** results, the pH is within the range, thus the broad interpretation of the reference is that lower pH values can be used, but the results will not be the best (**"A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.** Absent the preferred embodiments, the reference clearly suggests any pH value. With respect to the use of colloidal silica having the claimed size, since colloidal silica is known to

have the claimed size, as shown by Mirsa et al., one skilled in the art would have found this size obvious in the composition according to the primary reference.

Applicant's arguments filed 8/30/04 have been fully considered but they are not persuasive.

Applicants argue that EP 1077241 A2 and Misra et al. do not teach the claimed invention because one of ordinary skill in the art would not have been motivated to select the claimed pH values. The examiners previous position was that since the references fail to mention any **general** specific pH (criticality), this (the absence of any such limitation) constitutes a broad teaching of pH values, thus making the claimed pH (acidic) obvious. In view of this, it can be reasonably interpreted that the claimed pH is encompassed by the broad teachings according to these references in the absence of any evidence showing the contrary (criticality). This is apparent because all slurries must have a pH. The motivation is that the references suggest a broad pH range and applicants have **not** shown any evidence showing critically for the claimed pH range. The examiner acknowledges that the references teach that the pH is **preferably** greater than 7 but as is well known "**A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.** Absent the preferred embodiments, the references clearly suggest any pH values. In addition, applicants state that Misra et al. does not teach the use of fluoride salts. Contrary to applicants position, this is clearly disclosed in column 5, lines 30+.

Applicants argue the results shown on table 1 as providing unexpected evidence. This is not persuasive because the comparative example is one which contains **no** fluoride, however all

of the art applied contains a fluoride salt (fluoride salt is essential in the reference and not merely an optional additive) thus how can this comparative example be used to show unexpected results over reference compositions that all contain a fluoride salt. In addition, applicants are comparing compositions which fall within the scope of the claimed invention compositions and the reference compositions and not compare the claimed invention with the teachings of the prior art applied. Applicants have not shown any criticality for the claimed pH range.

Applicants fail to argue the previous rejection based on WO 01/78116 in view of Mirsa et al. and Ina et al.

Applicants fail to argue the previous rejection Grover et al. alone or in view of Mirsa et al. and Ina et al.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. ***In re Opprecht*** **12 USPQ 2d 1235, 1236 (CAFC 1989);** ***In re Bode*** **USPQ 12;** ***In re Lamberti*** **192 USPQ 278;** ***In re Bozek*** **163 USPQ 545, 549 (CCPA 1969);** ***In re Van Mater*** **144 USPQ 421;** ***In re Jacoby*** **135 USPQ 317;** ***In re LeGrice*** **133 USPQ 365;** ***In re Preda*** **159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See** ***In re Van Marter,*** **144 USPQ 421.**

"A generic disclosure renders a claimed species prima facie obvious. ***Ex parte George*** **21 USPQ 2d 1057, 1060 (BPAI 1991);** ***In re Woodruff*** **16 USPQ 2d 1934;** ***Merk & Co. v. Biocraft Lab. Inc.*** **10 USPQ 2d 1843 (Fed. Cir. 1983);** ***In re Susi*** **169 USPQ 423 (CCPA 1971)".**

Evidence of unexpected results must be clear and convincing. In re Lohr 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. In re Linder 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael A Marcheschi
Primary Examiner
Art Unit 1755

MM
11/04